

**Notice of Allowability**

Application No.

10/519,133

Examiner

Michael Bernshteyn

Applicant(s)

PAPENFUHS ET AL.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/07/07.
2. ☒ The allowed claim(s) is/are 16-30, 32 and 33.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

Michael M Bernshteyn  
Patent Examiner  
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### **DETAILED ACTION**

1. This Office Action is a response to the remarks filed on June 7, 2007. No claims have been amended or cancelled; claims 32 and 33 have been added.
2. In view of the remarks and the Declaration under 37 C.F.R. 1.132 submitted by the Applicants, the rejection under 35 U.S.C. 102(b) of claims 16, 20 and 21 as being anticipated by Fuss et al. (U. S. Patent 6,808,858), the rejection under 102(b) as anticipated by or, in the alternative, under 103(a) of claims 17-19 and 24-25 as obvious over Fuss et al, and the rejection under 35 U.S.C. 103(a) of claims 22, 23 and 26-31 as being unpatentable over Fuss et al. in view of D'Alelio (U. S. Patent 2,332,889) have been withdrawn.
3. Claims 16-33 are now active.

### **EXAMINER'S AMENDMENT**

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Steven G. Davis on August 13, 2007.

5. Claim 31 has been deleted.
6. Claim 16 has been amended as follows:

The last line: delete period at the end and insert "wherein is thermally crosslinked at temperatures in the range from 120<sup>0</sup>C to 280<sup>0</sup>C."

7. Claim 21 has been amended as follows: delete all words in the claim and insert:

"The polyvinyl acetal according to claim 16, characterized in that the polyvinyl acetal (I) is thermally crosslinked together with at least one plasticizer at temperatures in the range from 120<sup>0</sup>C to 280<sup>0</sup>C."

8. Claim 22 has been amended as follows:

Line 1: delete the words "The method" and insert the words "The polyvinyl acetal".

9. Claims 23-27, 29 and 30 have been amended as follows:

delete the word "moulding" and insert the word "molding".

### ***Allowable Subject Matter***

10. Claims 16-30, 32 and 33 are allowed.

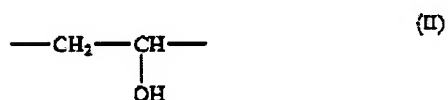
11. The following is a statement of reasons for the indication of allowable subject matter: the present claims are allowable over the closest reference: Fuss et al. (U. S. Patent 6,808,858).

Fuss discloses a light-sensitive composition containing: (i) at least one diazonium polycondensation product or at least one system that can be radically polymerized and consists of photoinitiators and unsaturated compounds; (ii) at least one binding agent and optionally one or more exposure indicators, one or more dyes for increasing the

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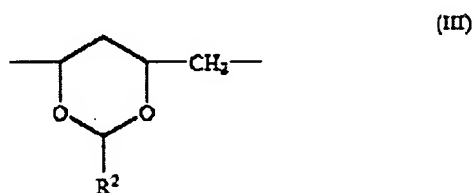
image contrast and one or more acids for stabilizing the light-sensitive composition which is characterized in that the binding agent essentially consists of units (A, B, C, D) (abstract).

The component B being present in an amount of from 0.1 to 60 mol %, preferably from 20 to 55 mol %, and corresponding to the formula



This group of monomers is readable in applicant's claims as being monomer a).

The component C being present in an amount of from 10 to 80 mol %, preferably from 25 to 65 mol %, and corresponding to the formula

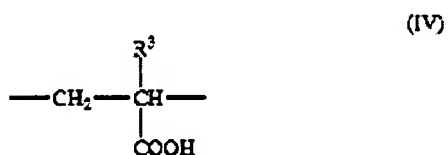


in which  $\text{R}^2$  is a hydrogen atom, an alkyl radical having from 1 to 10 carbon atoms which may be unsubstituted or substituted with at least one carboxyl group, sulfonic acid group, hydroxyl group or at least one halogen atom, preferably a methyl, ethyl or propyl group, or an aryl group which may be unsubstituted or substituted with at least one alkyl group, carboxyl group, sulfonic acid group, hydroxyl group or at least one halogen atom, it being possible for this unit to be present several times with different radicals  $\text{R}^2$  independently of one another.

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This group of monomers is readable in applicant's claims as being monomer b).

The component D being present in an amount of from 1 to 20 mol %, preferably from 2 to 8 mol %, and corresponding to the formula



in which  $\text{R}^3$  is a hydrogen atom or alkyl radical having 1 to 10 carbon atoms, which may be unsubstituted or substituted by a carboxyl group,  $\text{R}^3$  preferably being a hydrogen atom, a methyl group or  $\text{---CH}_2\text{COOH}$  group (col. 3, line 46 through col. 4, line 21).

This group of monomers is readable in applicant's claims as being monomer d).

Therefore, the first essential component is a polyvinyl alcohol, which contains a carboxyl group bonded directly to the main chain and some of whose OH groups are acetalated. Copolymers of vinyl alcohol, a vinyl ester and an olefinically unsaturated carboxylic acid serve as starting material (col.4, lines 40-46). The synthesis starting from acetaldehyde, propionaldehyde and butyraldehyde or acetals (this group of monomers is readable in applicant's claims as being compound (B)), thereof with lower alcohols  $\text{R}^4\text{OH}$  is particularly preferred (col. 4, lines 63-65). The preparation of the acetal polymers can be carried out by known processes in the presence of catalytic amounts of acid. Preferred acids are hydrochloric acid, phosphoric acid, or organic sulfonic acids (col. 5, lines 5-9).

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12. However, Fuss does not disclose or fairly suggest the instantly claimed crosslinked polyvinyl acetal because the esterification of a carboxyl group with an alcohol requires temperatures far greater than 90°C (typically greater than 150°C) wherein at least 10 mol% of all carboxylic groups are esterified, and a method for the production of the polyvinyl acetal, which is thermally crosslinked at temperatures in the range from 120°C to 280°C as per instant claims 16, 21, 32 and 33.

13. As of the date of this Notice of Allowability, the Examiner has not located or identified any reference that can be used singularly or in combination with another reference including Fuss et al. to render the present invention anticipated or obvious to one of ordinary skill in the art.

14. In the light of the above discussion, it is evident as to why the present claims are patentable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delay, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reason for Allowance".

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn  
Patent Examiner  
Art Unit 1713

MB  
08/13/2007

  
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